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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,516	02/04/2002	Mark A. Handschy	50041-00014	8464

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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT PAPER NUMBER

2873

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/067,516	<b>Applicant(s)</b> HANDSCHY ET AL.	
	<b>Examiner</b> Timothy J. Thompson	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-22, 26-28 and 31-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-22, 27, 28, 32-36, 38 and 43 is/are allowed.
- 6) ☒ Claim(s) 10, 12, 26, 31, 37 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 11, 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 12, 31, 37, 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Um et al. (U.S. Patent No. 5,245,369).

Regarding claim 10, Um et al. discloses a support surface(fig 1, 20, the mirror array inherently discloses a support surface for supporting the array of mirrors); a source of light located proximate to the support surface(fig 1, 12); a microdisplay located proximate to the support surface(fig 1, 20); and a reflector(fig 1, 18) located above the support surface and spaced apart from the support surface in position to reflect the light from the source of light to eventually illuminate the microdisplay wherein the source of light includes one or more LEDS(col 2, lines 15-20, being an LED is a broad band source of light).

Regarding claim 12, Um et al. discloses the reflector is curved(fig 1, 18).

Regarding claim 31, Um et al. discloses a microdisplay(fig 1, 20) that lies substantially in a plane; a source of light(fig 1, 12) located proximate to the plane, the source being oriented to direct light up and away from the plane(fig 1); and an optical element(fig 1, 18) located above the plane in position to direct the light from the source of light toward the microdisplay, the optical element being substantially further away from the microdisplay than is the source of light(fig 1); wherein each of the light source

and the microdisplay have a primary optical axis, and further wherein these optical axes intersect with one another(fig 1).

Regarding claim 37, Um et al. discloses at least one microdisplay(fig 1, 20); a source of light(fig 1, 12) located proximate to the at least one microdisplay; and a reflector(fig 1, 18) spaced apart from the at least one microdisplay in position to reflect the light from the source of light to eventually illuminate the at least one microdisplay(fig 1), wherein the source of light is closer to all of the at least one microdisplays in the display system than to the reflector(fig 1).

Regarding claim 39, Um et al. discloses one or more microdisplays(fig 1, 20). wherein all of the microdisplays in the display system lie substantially in a single plane(fig 1); a source of light(fig 1, 12) located proximate to the plane, the source being oriented to direct light up and away from the plane(fig 1); and an optical element(fig 1, 18) located above the plane in position to direct the light from the source of light toward the one or more microdisplays, the optical element being substantially further away from the one or more microdisplays than is the source of light(fig 1).

Regarding claim 40, Um et al. discloses the optical element includes a reflector(fig 1, 18).

Regarding claim 41, Um et al. discloses the reflector is curved(fig 1, 18).

Regarding claim 42, Um et al. discloses each of the one or more microdisplays is a reflective microdisplay(fig 1, 20 and col 2).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ooi et al.(U.S. Patent No. 5,648,860).

Regarding claim 26, Ooi et al. discloses a microdisplay that lies substantially in a plane(fig 22, E2); a source of light located proximate to the plane(fig 22, LS), the source being oriented to direct light up and away from the plane(fig 22); and an optical element located above the plane in position to direct the light from the source of light toward the microdisplay(fig 22, 22), the optical element being substantially further away from the microdisplay than is the source of light, wherein the optical element includes a reflector, wherein the reflector is a beam splitter(col 16, lines 45-52). Ooi et al. does not disclose the micro display having an image generating area that is no larger than 6 millimeters on a side. It would have been an obvious matter of design choice to use an image generating area that is no larger than 6 millimeters on a side, since such a modification would have involved a mere change in the size of the components. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

***Allowable Subject Matter***

Claims 11, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-22, 27, 28, 32-36, 38, 43 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularity or in combination fails to anticipate or fairly suggest the limitations of the independent claim, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 14, 15, 27, 28, 30, 36-38, with the allowable features being; the beam splitter is a polarizing beam splitter or a holographic beam splitter; the display system generates a color image via the single microdisplay; the source of light located proximate to the support surface with the reflector spaced apart from the support surface; the source of light located within a distance of the microdisplay, the distance being less than the lateral extent of the generated image on the micro display; or the source of light located proximate to the micro display with the source of light closer to the microdisplay than the reflector. Therefore claims 14-22, 27, 28, 32-36, 38, 43 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

A handwritten signature in black ink that reads "Timothy J. Thompson". The signature is written in a cursive, flowing style.

**TIMOTHY THOMPSON**  
**PRIMARY EXAMINER**

T.J.T.

2/16/05